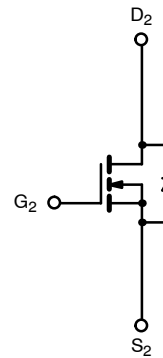
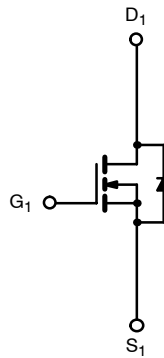
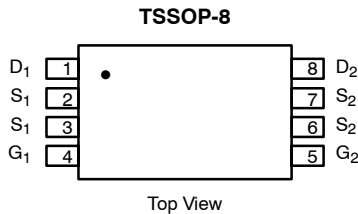




## Dual N-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
20	0.030 @ $V_{GS} = 4.5$ V	4.5
	0.033 @ $V_{GS} = 3.0$ V	4.2
	0.035 @ $V_{GS} = 2.5$ V	3.9
	0.043 @ $V_{GS} = 1.8$ V	3.6



Ordering Information: Si6926ADQ-T1—E3 (Lead Free)

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		$V_{DS}$	20		V
Gate-Source Voltage		$V_{GS}$	$\pm 8$		
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) <sup>a</sup>	$T_A = 25^\circ\text{C}$	$I_D$	4.5	4.1	A
	$T_A = 70^\circ\text{C}$		3.6	3.3	
Pulsed Drain Current (10 $\mu\text{s}$ Pulse Width)		$I_{DM}$	20		
Continuous Source Current (Diode Conduction) <sup>a</sup>		$I_S$	0.83	0.69	W
Maximum Power Dissipation <sup>a</sup>	$T_A = 25^\circ\text{C}$	$P_D$	1.0	0.83	
	$T_A = 70^\circ\text{C}$		0.64	0.53	
Operating Junction and Storage Temperature Range		$T_J, T_{stg}$	-55 to 150		$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient <sup>a</sup>	$t \leq 10$ sec	$R_{thJA}$	90	125	$^\circ\text{C}/\text{W}$
	Steady State		126	150	
Maximum Junction-to-Foot (Drain)		$R_{thJF}$	65	80	

Notes

a. Surface Mounted on FR4 Board,  $t \leq 10$  sec.

For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

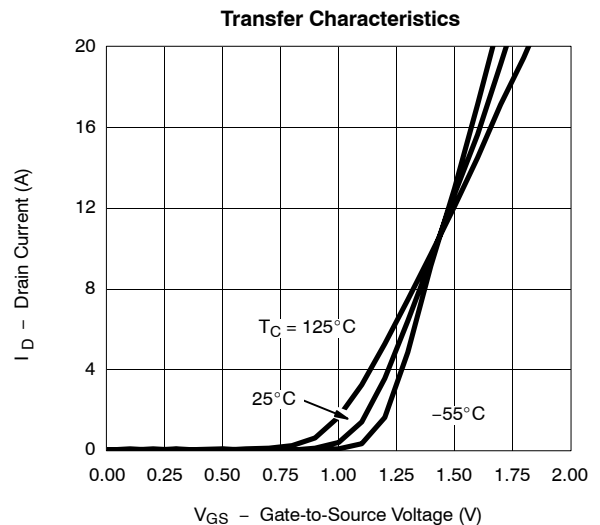
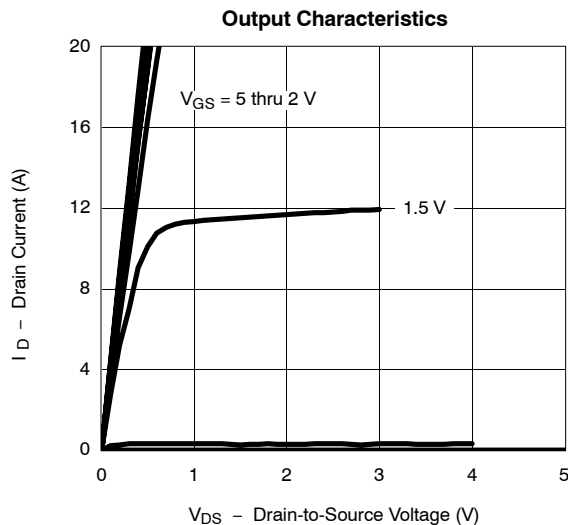


SPECIFICATIONS (T <sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ <sup>a</sup>	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	0.40		1.0	V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ± 8 V			± 100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V			1	μA
		V <sub>DS</sub> = 20 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C			5	
On-State Drain Current <sup>b</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ 5 V, V <sub>GS</sub> = 5 V	10			A
Drain-Source On-State Resistance <sup>b</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 4.5 A		0.024	0.030	Ω
		V <sub>GS</sub> = 3.0 V, I <sub>D</sub> = 4.2 A		0.026	0.033	
		V <sub>GS</sub> = 2.5 V, I <sub>D</sub> = 3.9 A		0.029	0.035	
		V <sub>GS</sub> = 1.8 V, I <sub>D</sub> = 3.6 A		0.035	0.043	
Forward Transconductance <sup>b</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 4.5 A		26		S
Diode Forward Voltage <sup>b</sup>	V <sub>SD</sub>	I <sub>S</sub> = 0.83 A, V <sub>GS</sub> = 0 V		0.6	1.1	V
<b>Dynamic<sup>a</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 4.5 A		7.5	10.5	nC
Gate-Source Charge	Q <sub>gs</sub>			1.2		
Gate-Drain Charge	Q <sub>gd</sub>			1.2		
Gate Resistance	R <sub>g</sub>			1.9		Ω
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 10 V, R <sub>L</sub> = 10 Ω I <sub>D</sub> ≅ 1 A, V <sub>GEN</sub> = 10 V, R <sub>g</sub> = 6 Ω		6	12	ns
Rise Time	t <sub>r</sub>			16	25	
Turn-Off Delay Time	t <sub>d(off)</sub>			46	70	
Fall Time	t <sub>f</sub>			9	15	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 0.83 A, di/dt = 100 A/μs		20	40	

Notes

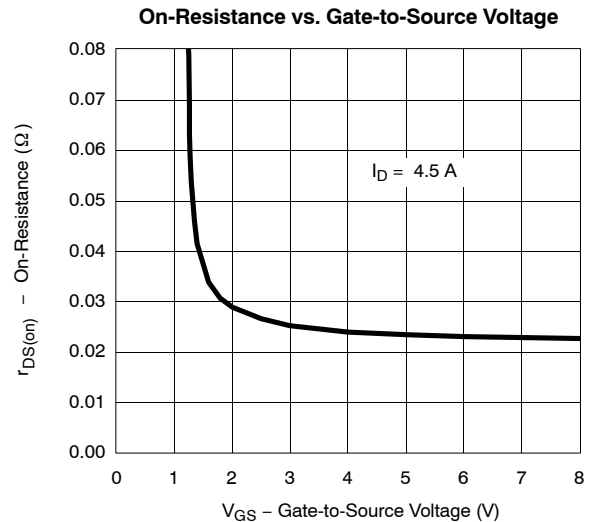
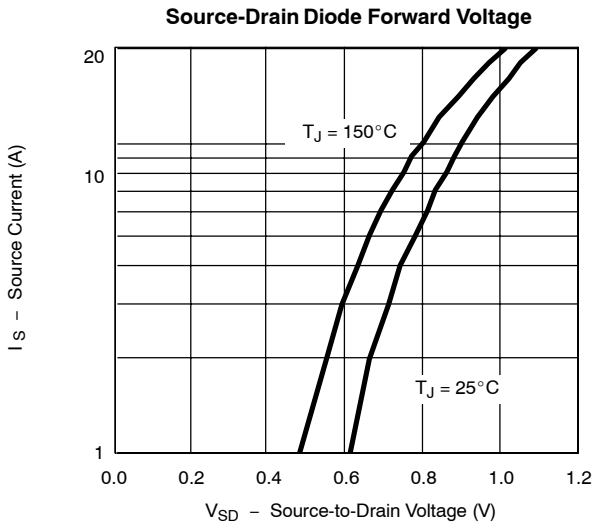
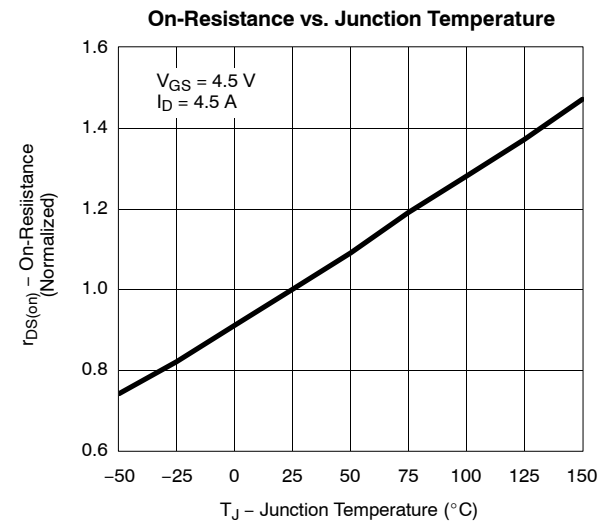
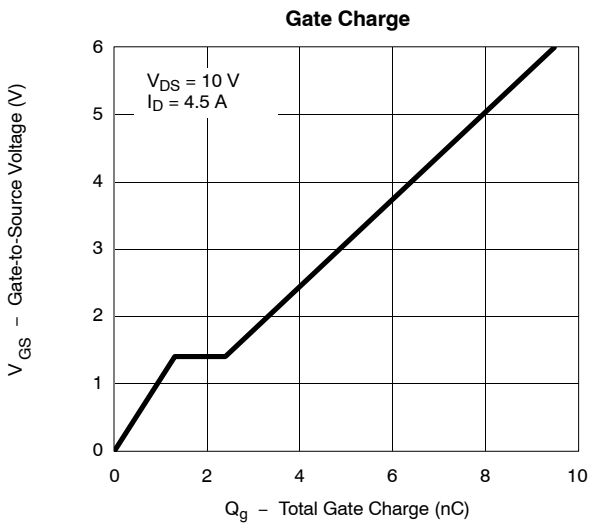
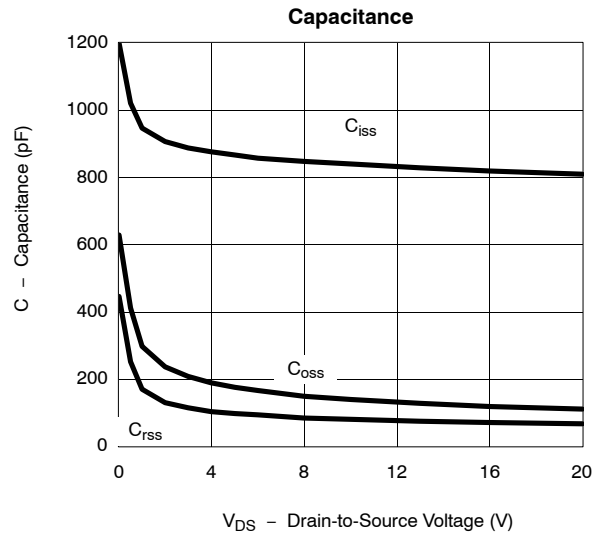
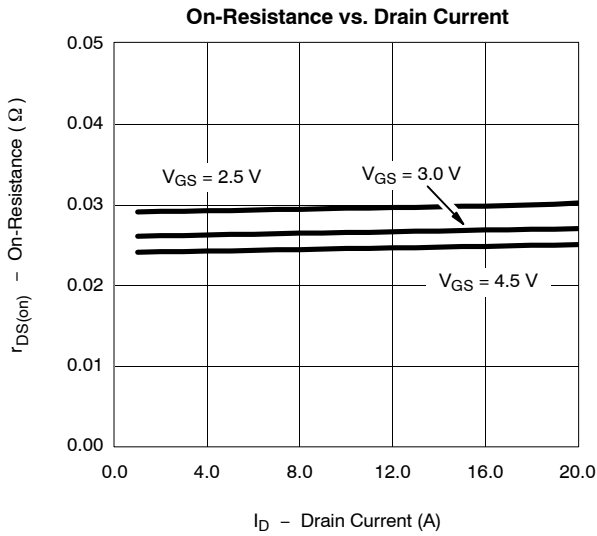
- a. Guaranteed by design, not subject to production testing.
- b. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**



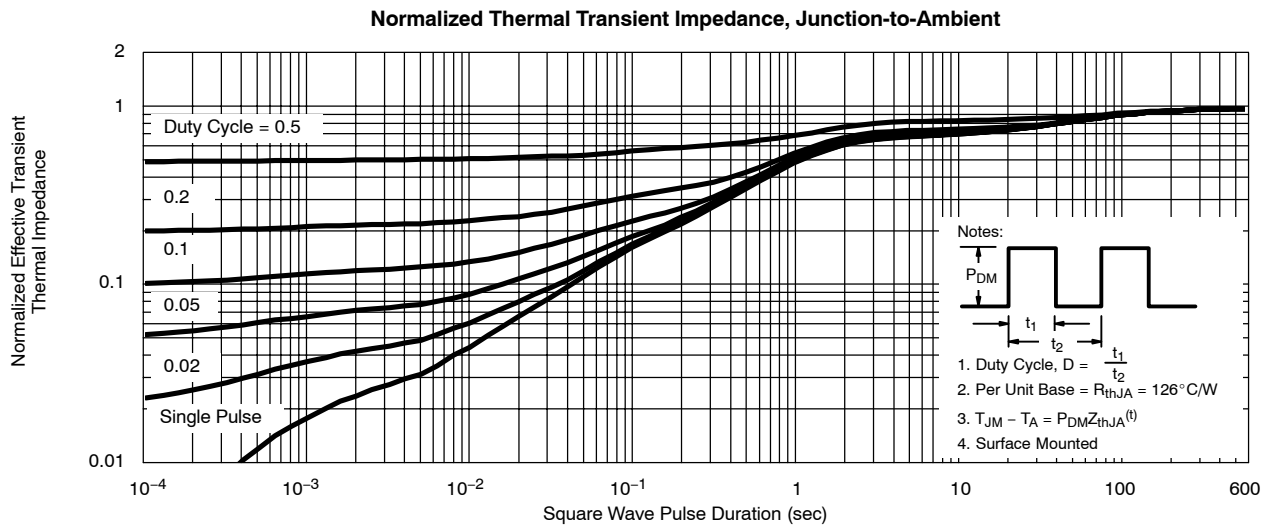
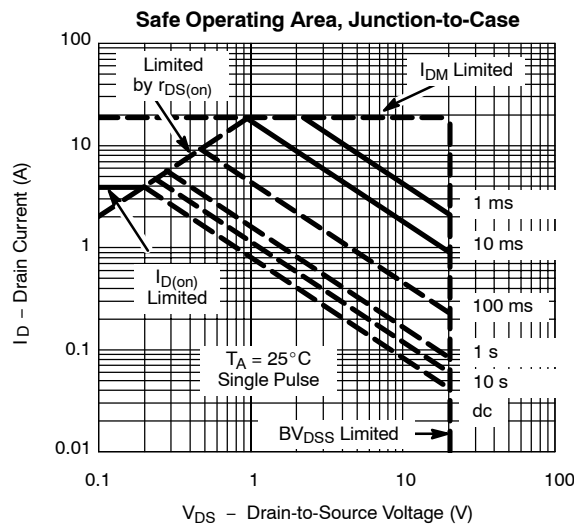
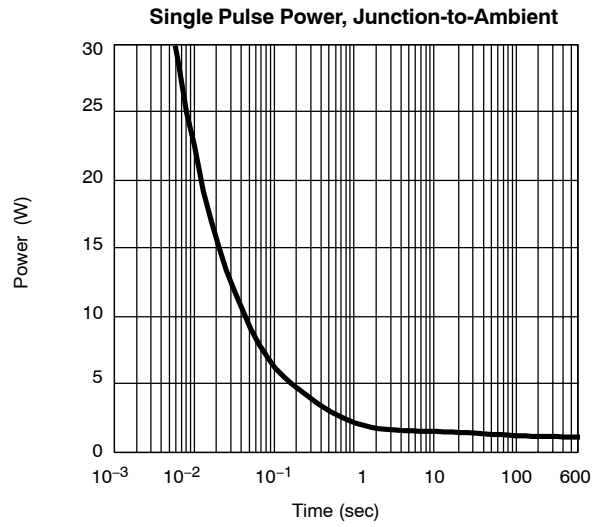
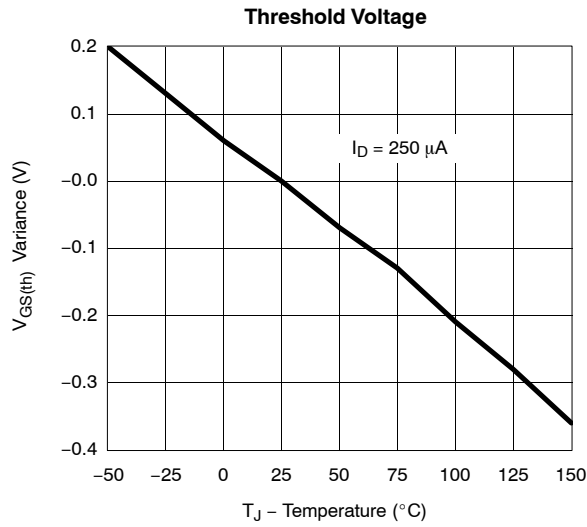


**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**



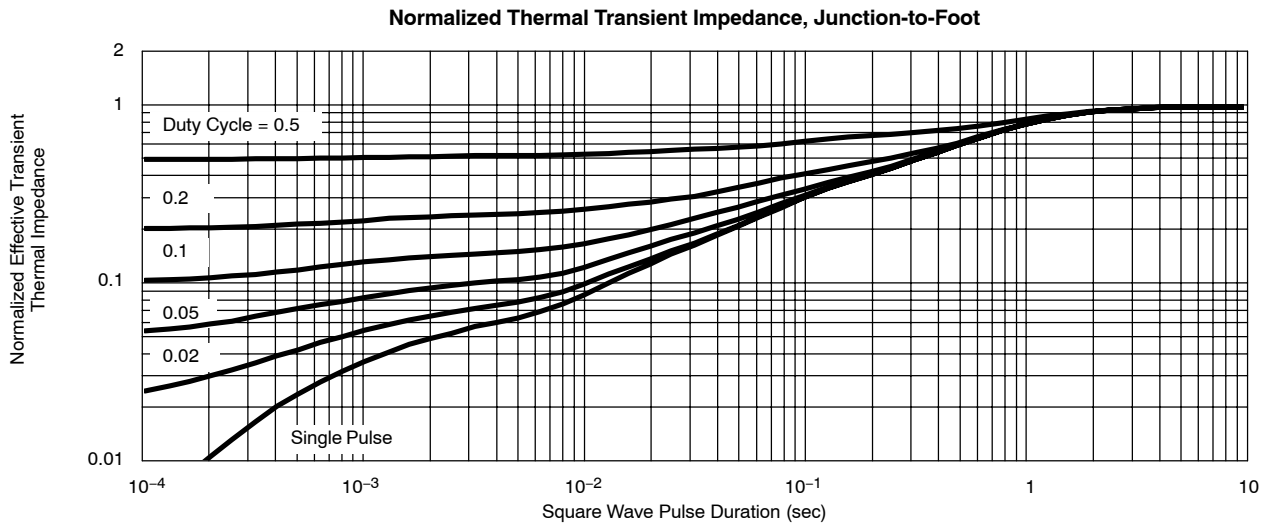


**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**





**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**





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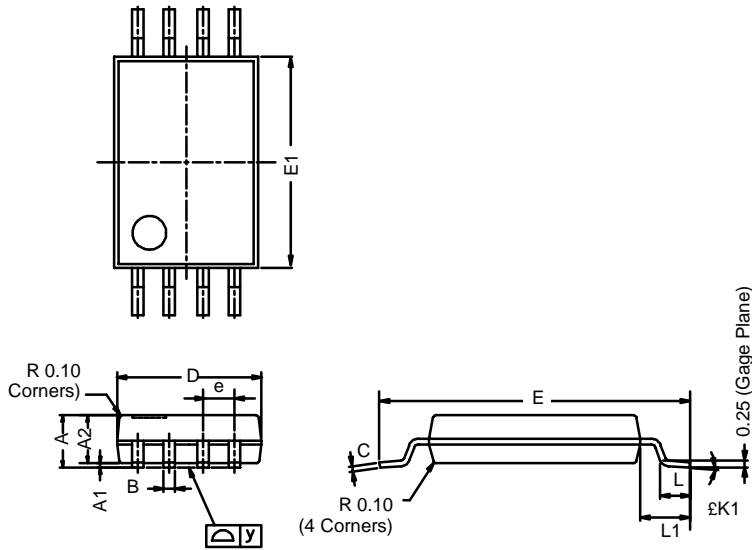
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**TSSOP: 8-LEAD**

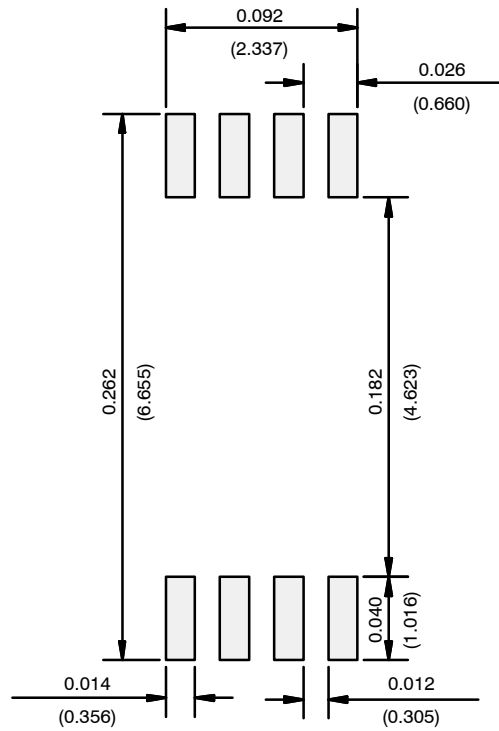
JEDEC Part Number: MO-153



Dim	MILLIMETERS		
	Min	Nom	Max
A	–	–	1.20
A <sub>1</sub>	0.05	0.10	0.15
A <sub>2</sub>	0.80	1.00	1.05
B	0.19	0.28	0.30
C	–	0.127	–
D	2.90	3.00	3.10
E	6.20	6.40	6.60
E <sub>1</sub>	4.30	4.40	4.50
e	–	0.65	–
L	0.45	0.60	0.75
L <sub>1</sub>	0.90	1.00	1.10
Y	–	–	0.10
£K1	0°	3°	6°

ECN: S-03946—Rev. G, 09-Jul-01  
DWG: 5844

**RECOMMENDED MINIMUM PADS FOR TSSOP-8**



Recommended Minimum Pads  
Dimensions in Inches/(mm)

[Return to Index](#)



## Vishay Lead-Free Family Summary Sheet-Active Components

Product Description		Pb Free "2nd-Level Interconnect" Status										RoHS Status				S
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (Q/Y)	Pb-free Samples available (Q/Y)	Pb-free Massproduction (Q/Y)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Products/Termination available after Conversion	RoHS Qual. Complete and Report Available (Q/Y)	RoHS-Compl Samples (Q/Y)	RoHS-Compl Massproduction (Q/Y)	Exemptions Used	Moisture Sensitivity Level	IPC/JEDEC-I-STD-020C compliant
<b>MOSFETS</b>																
PMOS, SC-70	SI1xxxDL	SI	2/04	3/03	2/04	100% Sn matte	None	Alloy42	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, SC-70	SI1xxxDH	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, SC-75A	SI1xxxR	SI	2/04	3/03	2/04	100% Sn matte	None	Alloy42	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, SC-89	SI1xxxX	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, SOT-23	SI2xxxDS	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, Small Signal, SOT-23	2N7002x, TNxxxxK, VNxxxxK, TPxxxxK, VPxxxxK	SI	2/04	3/03	2/04	100% Sn matte	None	Alloy42	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, Small Signal, TO-92	2N7000KL, TNxxxxKL, VNxxxxKL, TPxxxxKL, VPxxxxKL	SI	2/04	3/03	2/04	100% Sn matte	None	Alloy42	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, TSOP-6	SI3xxxDV	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, SOIC	SI4xxxDY, SI6xxxEY, SI9xxxDY, SI9xxxEY	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, ChipFET	SI5xxxDC	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, ChipFET PowerP	SI5xxxDU	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
PMOS, TSSOP-8	SI6xxxDQ	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, PowerPAK 1212	SI7xxxDN	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, PowerPAK SO8	SI7xxxDP	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, MicroFOOT	SI8xxxDB	SI	2/04	3/03	2/04	Sn/Ag/Cu	None	Lead-Free	add "-E1"	NO	2/04	3/03	2/04	None	NA	
PMOS, PowerPAK MLF	SIxxxxxxx	SI	4/06	4/06	4/06	100% Sn matte	None	Cu	add "-E3"	YES	4/06	4/06	4/06	None	1	2
PMOS, PolarPAK	SIExxxDF	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, PowerPAK 2 x 5	SIExxxDZ	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, TO-263	SUBxxxxxx-xx, SUMxxxxxx-xx	SI	2/04	3/03	2/04	100% Sn matte	Ni	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, TO-252	SUDxxxxxx-xx, SURxxxxxx-xx	SI	2/04	3/03	2/04	100% Sn matte	Ni	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, TO-220	SUPxxxxxx-xx, SUNxxxxxx-xx	SI	2/04	3/03	2/04	100% Sn matte	Ni	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	

## Vishay Lead-Free Family Summary Sheet-Active Components

Product Description			Pb Free "2nd-Level Interconnect" Status								RoHS Status				S	
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (Q/Y)	Pb-free Samples available (Q/Y)	Pb-free Massproduction (Q/Y)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Products/Termination available after Conversion	RoHS Qual. Complete and Report Available (Q/Y)	RoHS-Compl Samples (Q/Y)	RoHS-Compl Massproduction (Q/Y)	Exemptions Used	Moisture Sensitivity Level	IPC/JEDEC-I-STD-Q200 compliant
PMOS, TO-251	SUUxxxxxx-xx	SI	2/04	3/03	2/04	100% Sn matte	Ni	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
PMOS, TO-262	SUVxxxxxx-xx	SI	2/04	3/03	2/04	100% Sn matte	Ni	Cu	add "-E3"	YES	2/04	3/03	2/04	High Temperature die attach solder	1	
<b>JFET's</b>																
JFET, Hermetic	CRxxx, PADxx, DPADx, 2Nxxx, Uxxx, VCRxxx	SI	2/04	3/03	2/04	100% Sn matte	None	Alloy42	add "-E3"	NO	2/04	3/03	2/04	None	1	
JFET, TO-92	Jxxx, JPADxx, PNxxxx	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
JFET, SOT-23	SSTxxx	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
JFET, SOIC	SSDTPADxxx	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
<b>INTEGRATED CIRCUITS</b>																
LinIC, HV SOIC	DGxxxDY, DGxxxDW	SI	4/04	4/04	1/05	100% Sn matte	None	Cu	add "-E3"	YES	4/04	4/04	1/05	None	1	
LinIC, HV PDIP	DGxxxDJ	SI	4/04	4/04	1/05	100% Sn matte	None	Cu	add "-E3"	YES	4/04	4/04	1/05	None	1	
LinIC, HV TSSOP	DGxxxDQ	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
LinIC, HV PLCC	DGxxxDN	SI	4/04	4/04	1/05	100% Sn matte	None	Cu	add "-E3"	YES	4/04	4/04	1/05	None	1	
LinIC, LV MSOP	DGxxxDQ	SI	4/04	4/04	1/05	100% Sn matte	None	Cu	add "-E3"	YES	4/04	4/04	1/05	None	1	
LinIC, LV TSOP	DGxxxDV	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
LinIC, LV SC-89	DGxxxDX	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
LinIC, LV SC-70	DGxxxDL	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
LinIC, LV QFN	DGxxxDN	SI	4/04	4/04	1/05	Ni/Pd/Au	None	Cu	add "-E4"	YES	4/04	4/04	1/05	None	1	
LinIC, LV SOT-23	DGxxxDS	SI	2/04	3/03	2/04	100% Sn matte	None	Cu	add "-E3"	YES	2/04	3/03	2/04	None	1	
LinIC, LV MicroFOOT	DGxxxDB	SI	2/04	3/03	2/04	Sn/Ag/Cu	None	Lead-Fra	add "-E1"	NO	2/04	3/03	2/04	None	NA	
PIC, SSOP	SI786xxxG, SI913xxG	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, MSOP	SI91xxxH, SI9xxxH	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, PDIP	SI91xxDJ	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, QSOP	SI9xxxG	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, MLP	SI91xxxDM, SI9xxxDM	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, PLCC	SI91xxDN	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, PowerPAK	SI91xxDLP, SI9xxxDLP, SI91xxDMP, SI9xxxDMP	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	High Temperature die attach solder	1	25
PIC, TSSOP	SI91xxxQ, SI9xxxQ, SI9xxxQDQ	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	High Temperature die attach solder	1	25
PIC, SC-70	SI9xxxDR	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, SQFP	SI99xxCS, SI9xxxCS	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, SOT-23	SI91xxDT, SI9xxxDT	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
PIC, SOIC	SI9xxxDW, SI9xxxDY, SI9xxxDY	SI	3/04	4/04	4/04	100% Sn matte	None	Cu	add "-E3"	YES	3/04	4/04	4/04	None	1	25
HIREL	IC's, JFETS, MOSFETS	SI	NA	NA	NA	Tin/Lead			NA	NA	NA	NA	----	NA		
<b>FUNCTION PACK</b>																
Function PAK	FXxxxxxxxxxx	SI	3/06	3/06	3/06	Sn/Ag/Cu	None	NA	add "-E2"	YES	3/06	3/06	3/06	TBD	TBD	

## Vishay Lead-Free Family Summary Sheet-Active Components

Product Description		Pb Free "2nd-Level Interconnect" Status										RoHS Status				S
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (Q/Y)	Pb-free Samples available (Q/Y)	Pb-free Massproduction (Q/Y)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Products/Termination available after Conversion	RoHS Qual. Complete and Report Available (Q/Y)	RoHS-Compl Samples (Q/Y)	RoHS-Compl Massproduction (Q/Y)	Exemptions Used	Moisture Sensitivity Level	IPC/JEDEC-I-STD-Q200C compliant
<b>SMALL SIGNAL PRODUCTS</b>																
Glass products	DO 35, DO 41	VS	✓	✓	3/04	SnAg 3,5% Hot plating	None	Cu	Standard Part number	NO	2/03	3/03	3/04	Leadoxide in Glass package	1	
Glass products	SOD 80, MicroMelf	VS	✓	✓	3/04	SnAg 2,5% Hot plating	None	Cu	Standard Part number	NO	2/03	3/03	3/04	Leadoxide in Glass package	1	
Glassbead Diodes	DOT 30B, SOD 57, SOD 64	VS	✓	✓	1/05	SnAg 3,5% Hot plating	None	Cu	Standard Part number	NO	2/03	3/03	1/05	Leadoxide in Glass package	1	
Glassbead Diodes	G1;G3,G4	VS	✓	✓	NO	Sn +3000ppm Pb	None	Cu	New Part Number	NO	TBD	TBD	NO	Leadoxide in Glass package	1	
Plastic products	DO 213 AB Plastic (GLL 47xx)	VS	✓	✓	1/06	100% Sn matte	None	Cu	New Part Number	NO	1/05	1/05	1/05	Chip soldering, Glass passivation	1	
Plastic products	SMA-Zener (SML 47xx)	VS	✓	✓	1/06	100% Sn matte	None	Cu	New Part Number	NO	1/05	1/05	1/05	Chip soldering	1	
Plastic products	SOT 143, TO 50, LLP xx,SOT 3xx, TO92, SOT490, SOD523	VS	✓	✓	3/04	100% Sn matte	None	Cu	Standard Part number	NO	2/03	3/03	3/04		1	
Plastic products	SOT 23, SOD 123,323 (Thermoplast)	VS	✓	✓	1/05	100% Sn matte	None	Cu	Standard Part number	NO	2/03	3/03	1/05		1	
Plastic products	SOT 23-V, SOD 123-V,323-V, DO219 (Duroplast)	VS	✓	✓	1/05	100% Sn matte	None	Cu	Standard Part number	NO	2/03	3/03	1/05	Chip solder DO 219	1	
Plastic products	SOT 23HF, DO 214-Zener	VS	✓	✓	1/05	100% Sn matte	None	Cu	Standard Part number	NO	2/03	3/03	1/05	Chip solder DO 214	1	
Plastic products	TO 220	VS	✓	✓	1/05	100% Sn matte	None	Cu	Standard Part number	NO	2/05	2/05	1/05	Chip solder TO 220	2	
MELF glass	DO 213 AB	VS	✓	✓	1/05	SnAg 2,5% Hot plating	None	Cu	Standard Part number	NO	3/04	3/04	1/05	Lead in Glass package	1	
<b>POWER DIODES</b>																
PPAK	TO-220 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	TO262 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	T03P - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	IT0220 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	TO-263 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	Ni	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	1	
PPAK	TO-220 - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	ITO-220 - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	NA	
PPAK	TO-263 - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	Ni	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT Solder DA, Pb in passivation	1	

## Vishay Lead-Free Family Summary Sheet-Active Components

Product Description		Pb Free "2nd-Level Interconnect" Status										RoHS Status				S
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (Q/Y)	Pb-free Samples available (Q/Y)	Pb-free Massproduction (Q/Y)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Products/Termination available after Conversion	RoHS Qual. Complete and Report Available (Q/Y)	RoHS-Compl Samples (Q/Y)	RoHS-Compl Massproduction (Q/Y)	Exemptions Used	Moisture Sensitivity Level	IPC/JEDEC-I-STD-Q200C compliant
Bridge	GSIB4, DFM, MBM, GBL, GBU, GSIB - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Bridge	MBS, DFS - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
Bridge	KBPM, KBL, KBU, BC, GBPC (Wire Lead Type), WOG - COMMERCIAL	VS	NA	✓	✓	100% Ag	NONE	Cu	Standard P/N add "-E4"	NA	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Bridge	GBPC (terminal Type) - COMMERCIAL	VS	NA	✓	✓	Ni	NONE	Cu	Standard P/N add "-E4"	NA	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
SMX RECT	SMP, SMA, SMB, SMC - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX TVS	SMP, SMA, SMB, SMC - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	SMA, SMB, SMC - 'B' SERIES	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	SMP, SMA, SMB, SMC - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX TVS	SMP, SMA, SMB, SMC - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX TVS	D0218 LOAD DUMP - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	Ni	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	GL41/GL34 - COMMERCIAL	VS	2/06	✓	ü	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	GL41/GL34 - AUTOMOTIVE	VS	3/06	✓	ü	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX TVS	GL41 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	GF1 - COMMERCIAL	VS	2/06	✓	ü	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
SMX RECT	GF1 - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	1	
Axial RECT	PLASTIC, GPP, SKY, FER, IN DO41, DO15, DO201AD, MPG06, P600 - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	

## Vishay Lead-Free Family Summary Sheet-Active Components

Product Description		Pb Free "2nd-Level Interconnect" Status										RoHS Status				S
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (Q/Y)	Pb-free Samples available (Q/Y)	Pb-free Massproduction (Q/Y)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Products/Termination available after Conversion	RoHS Qual. Complete and Report Available (Q/Y)	RoHS-Compl Samples (Q/Y)	RoHS-Compl Massproduction (Q/Y)	Exemptions Used	Moisture Sensitivity Level	IPC/JEDEC-I-STD-020C compliant
Axial TVS	GPP TVS P4KE, P6KE, 1.5KE - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Axial TVS	5KP - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Axial RECT	MPG06, SMPG06 - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Axial TVS	GPP TVS P4KE, P6KE, 1.5KE, PAR TVS, - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Axial RECT SUPER	GP/EGP - COMMERCIAL	VS	2/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "-E3"	NO	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
Axial RECT SUPER	GP/EGP - AUTOMOTIVE	VS	3/06	✓	✓	100% Sn matte	NONE	Cu	Standard P/N add "HE3"	YES	✓	✓	✓	Pb in HT solder DA, Pb in passivation glass	NA	
<b>OPTO</b>																
LED leaded	TLXXXXXX	VS	✓	✓	✓	SnAg/Sn/Ag	g/Ag/N	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
LED SMD	TLMXXXXX	VS	✓	✓	✓	Sn	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	2	26
LED SMD	VLMxxxx	VS	✓	✓	✓	Sn	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	2a	26
Displays	TDSXXXXX	VS	✓	✓	✓	Ag	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
IR SMD	TEMXXXXX, TSMXXXXX	VS	✓	✓	✓	Sn	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	2	26
IR Receiver leaded	TSOP11XX-17XX, TSOP2XXX, TSOP311XX-317XX, TSOP4XXX, TSOP34XXX, TSOP7XXX, TSOP38XXX, TSOP58XXX, TSOP8XXX	VS	✓	✓	✓	Sn	Ag	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
IR Receiver SMD	TSOP61XX, TSOP62XX, TSOP361XX, TSOP362XX, TSOP5700, TSOP52XX	VS	✓	✓	✓	Sn	Ag	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	4	26
IRDC - LF	TFDXXXXX	VS	✓	✓	✓	Sn	Ag	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	4	26
IRDC - PCB	TFBSXXXX	VS	✓	✓	✓	Au	Ni	PCB	Standard Part Number	NO	✓	✓	✓	None	4	26
IR LED-DET leaded-1,8/3	TSXXXXXX, TESTXXXX, TEFTXXXX	VS	✓	✓	✓	SnAg/Sn/Ag	g/Ag/N	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
Side view lens	TEKSXXXX, TSKSXXXX	VS	✓	✓	✓	Sn	Ag	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
Coupler&SSR SMD	TCMTXXXX, TCLTXXXX, Miniflat, Flatpack, SO8, SFHXXXX	VS	✓	✓	✓	Sn	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	1	26
Coupler&SSR leaded	SFHXXX, TCETXXXX, TCdTXXXX, DIP4/8/16, DIP6	VS	✓	✓	✓	Sn	None	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	
Sensor Assy	TCSTXXXX, TCRTXXXX	VS	✓	✓	✓	SnAg/Sn/Ag	g/Ag/N	Cu/Fe	Standard Part Number	NO	✓	✓	✓	None	NA	

**Notes:**  
 ● Please contact your local Vishay Sales Office  
 ✓ indicates that the item is complete or compliant. If product is complete/compliant less than a year the actual date is shown.  
 NA indicates that the item is not applicable (I.e. not converting to Pb-Free)  
 SI=Siliconix, VS=Vishay Semiconductors

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