

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R _{thJC}	-	-	80	° C/W
Thermal resistance, junction - ambient	R _{thJA}	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	T _{sold}	-	-	265	° C

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = 250uA	30			V
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} = V _{DS} , I _D = -250uA	1.2	1.6	2.5	V
Drain-Source Leakage Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1.0	uA
Gate- Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Static Drain-source On Resistance	R _{DS(ON)}	V _{GS} = 10V, I _D = 6A		22	30	mΩ
		V _{GS} = 4.5V, I _D = 5A		30	40	mΩ
Forward Transconductance	g _{FS}	V _{DS} = 10V, I _D = 2A		10		s
Source-drain voltage	V _{SD}	I _S = 6A			1.28	V

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C _{iss}	f = 1MHz	-	650	-	pF
Output capacitance	C _{oss}		-	155	-	
Reverse transfer capacitance	C _{rss}		-	125	-	

Gate Charge characteristics (T_a = 25°C)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q _g	V _{DD} = 15V	-	11	-	nC
Gate - Source charge	Q _{gs}	I _D = 3A	-	5	-	
Gate - Drain charge	Q _{gd}	V _{GS} = 4.5V	-	7	-	

Note: ①

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Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate

Fig.1 Gate-Charge Characteristics

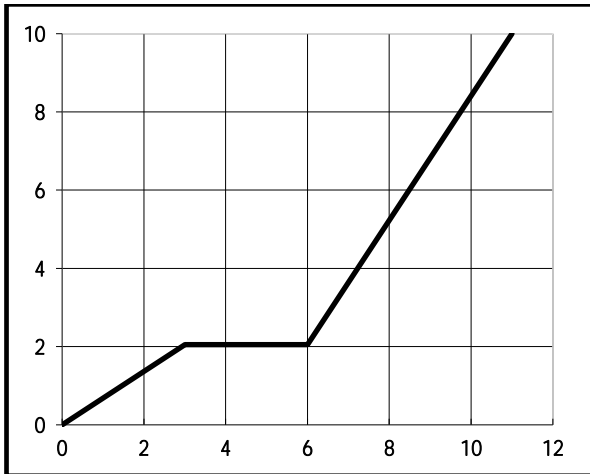


Fig.2 Capacitance Characteristics

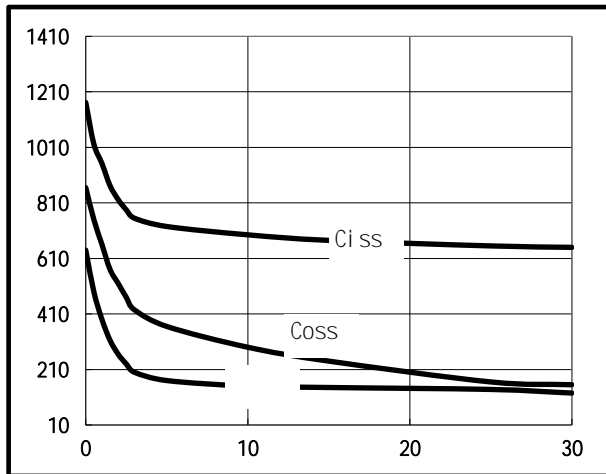


Fig.3 Power Dissipation Derating Curve

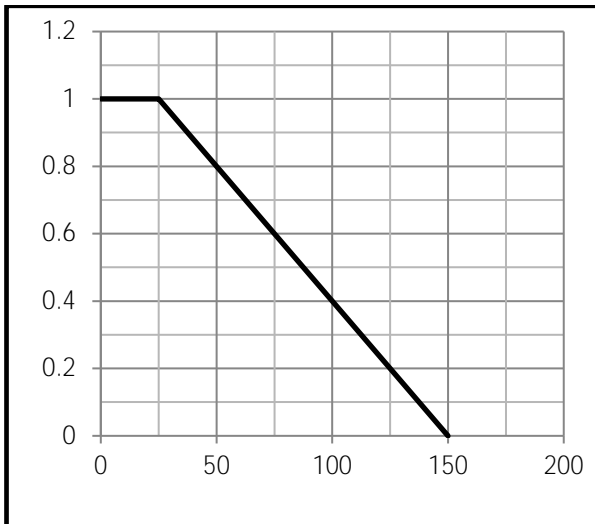


Fig.4 Typical output Characteristics

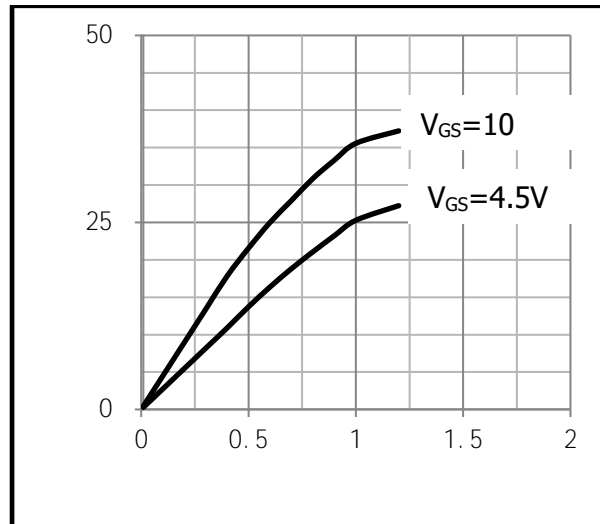


Fig.5 Threshold Voltage V.S Junction Temperature

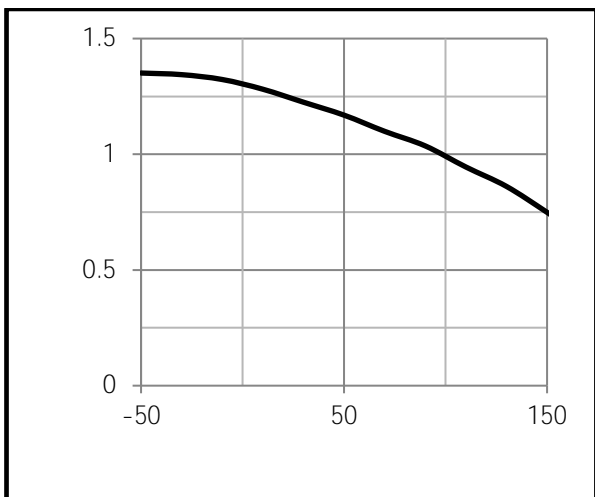


Fig.6 Resistance V.S Drain Current

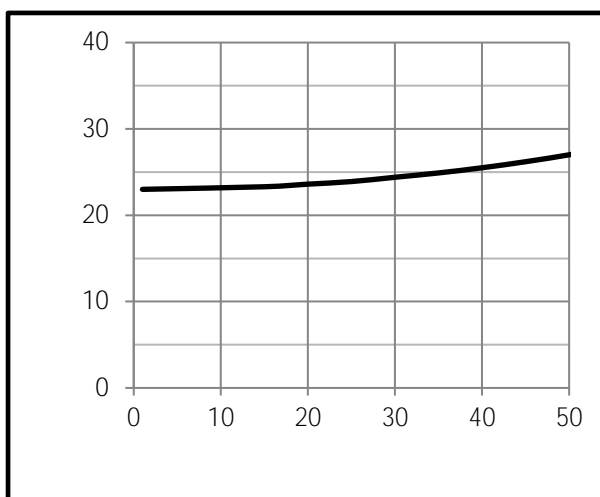


Fig.7 On-Resistance VS Gate Source Voltage

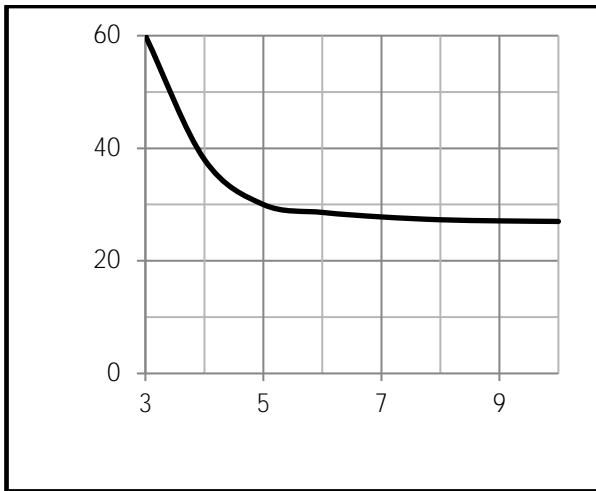


Fig.8 On-Resistance V.S Junction Temperature

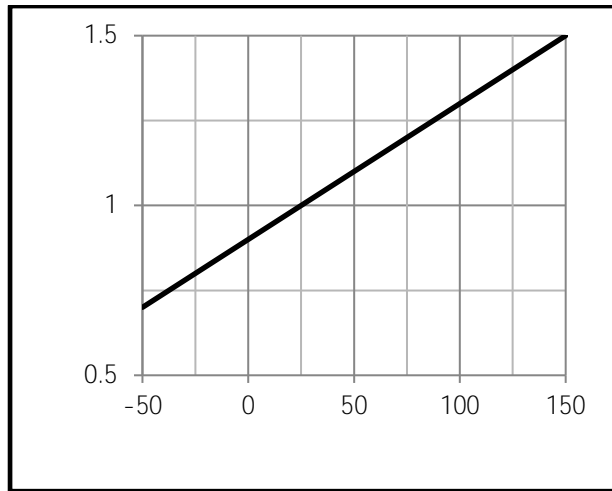


Fig.9 Switching Time Measurement Circuit

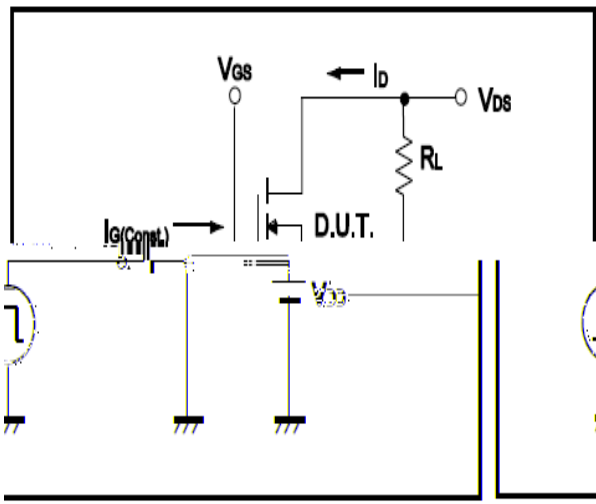


Fig.10 Gate Charge Waveform

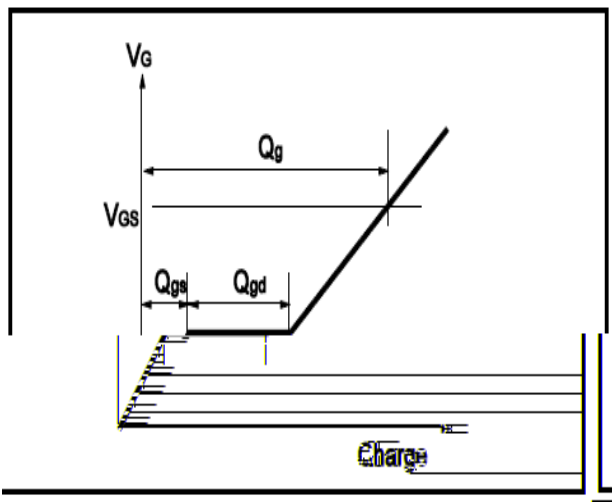


Fig.11 Switching Time Measurement Circuit

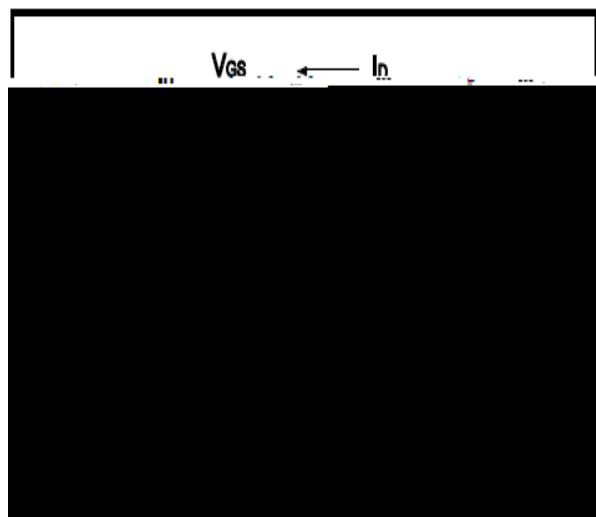
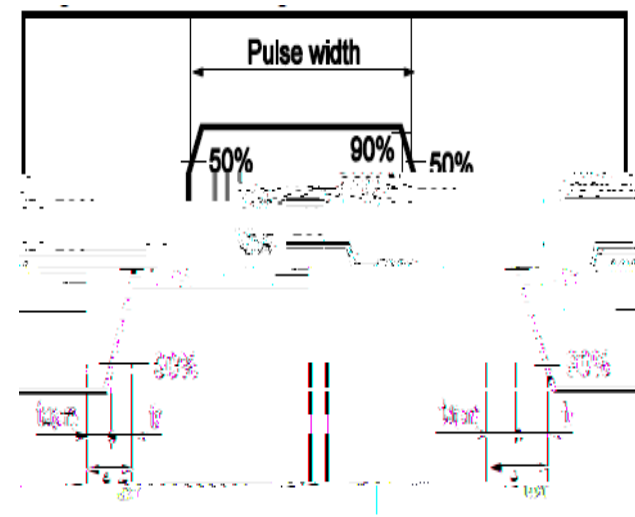


Fig.12 Gate Charge Waveform





(SOT23-3)

Unit mm

